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EXPLORING WAYS TO INTEGRATE AUDIO-VISUAL MEDIA WITH ELEMENTARY SCHOOL INSTRUCTIONAL PRACTICES.

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THIS STUDY DETERMINED TEACHER AND STUDENT REACTION TO ENRICHED AVAILABILITY OF AUDIOVISUAL MATERIALS AND THEIR EFFECTS ON USE OF MORE TRADITIONAL MEDIA IN AN ELEMENTARY SCHOOL. DATA COLLECTION BEGAN SIX MONTHS AFTER INTRODUCTION OF THE MATERIALS. IT INVOLVED SEMANTIC DIFFERENTIAL SCALES COMPLETED BY TEACHERS, SOCIOGRAPHS COMPLETED BY STUDENTS, AND QUESTIONNAIRES FOR BOTH, PLUS SOME COMPARABLE DATA FROM SCHOOLS WITHOUT EXTENSIVE AUDIOVISUAL MATERIAL. IT WAS FOUND THAT--TEACHERS' USE OF FILMED MATERIALS VARIED WIDELY, STUDENTS BROUGHT MANY ITEMS TO CLASS RELATED TO CLASSROOM ACTIVITIES, TEACHERS' ATTITUDES TOWARD AUDIOVISUAL MEDIA WERE POSITIVE, CHILDREN CHOSE FRIENDS FROM DIFFERENT CLASSES AND GRADES MORE FREQUENTLY, AND THE CURRICULUM WAS CONSIDERABLY ENRICHED. (LH)

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**Title:** Exploring Ways to Integrate Audio-Visual Media with Elementary School Instructional Practices

Cooperative Research Project No. 5-1082

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**Submitted by:** Jefferson Elementary School District
Thomas Edison School
101 Lincoln Avenue
Daly City, California

APPLICATION TO THE COMMISSIONER OF EDUCATION, OFFICE OF EDUCATION
U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, FOR A GRANT TO SUPPORT A RESEARCH PROJECT UNDER PROVISIONS OF TITLE VII OF THE NATIONAL DEFENSE EDUCATIONAL ACT OF 1958. (P.L. 85-864)

| | | |
|---|---|---|
| Title | : | Exploring Ways to Integrate Audio-Visual Media with Elementary School Instructional Practices |
| Submitted by | : | Jefferson Elementary School District<br>Thomas Edison School<br>101 Lincoln Avenue<br>Daly City, California |
| Initiated by | : | Dr. Vinton Stratton, Acting Superintendent<br>Jefferson Elementary School District<br>415-992-1000 |
| Principal Investigator | : | Mr. John Belforte, Principal<br>Thomas Edison School<br>Jefferson Elementary School District |
| Transmitted by | : | Dr. Vinton Stratton, Acting Superintendent<br>Jefferson Elementary School District<br>415-992-1000 |
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## CONTENTS

# INTRODUCTION

## School and Community

Thomas Edison School, situated in Daly City, California, is in a suburban area with students of wide-ranging ability and middle-class cultural backgrounds. The school has a pupil population of approximately seven hundred and a professional staff of twenty teachers who provide instruction for children from kindergarten through sixth grade. There are three classes per grade level. There is a full-time librarian, a nurse, consultants in art, music, speech, health, physical education, foreign language, curriculum, psychological services, and instructional materials. The principal has a full-time secretary and complete custodial staff. The school has complete library facilities and the building is a modern single level type.

Daly City is part of the Jefferson Elementary School District which serves about 9,500 children. The immediate community provides the necessary and typical middle-class physical and emotional setting in the preparation, support and reinforcement of learning for children to succeed in school. Constructive conversation, instructional trips and excursions, cultural visits to museums, art galleries, concerts and other related educational settings are provided by the home in the common fashion of a middle socio-economic community. There are twenty-one schools in the district - an area which has developed rapidly since the war as part of the tremendous population explosion in the San Francisco Bay Area. It is almost entirely residential, there being no industry within the confines of the school district. The people in the district are largely business, professional, and skilled workers. Readily accessible to the area are several universities and colleges.

Daly City is the northernmost city in San Mateo County, immediately adjacent to San Francisco. Since 1950, the city has experienced a phenomenal rate of growth. The 1960 census lists the population as 44,000, by 1965 it had reached 60,500 and by 1970 is expected to add another 21,000. With the annexation of Bayshore City in 1963, Daly City gained some large industry and land available

for future growth. The City now covers approximately ten square miles. A wide range of homes are available in Daly City. The costs vary from $17,500 to $50,000. Homes are popular in this area because of the proximity and easy access to San Francisco. Many apartments are available throughout the city. Median family income is about $9,000 per year. Thirty per cent of the residents make over $10,000. Over ten per cent of the residents are college graduates and the median for school years completed is 12.3.

## NATURE OF PROJECT DISCOVERY

Thomas Edison School began participation in a national demonstration project entitled Project Discovery, which was supported by the Encyclopaedia Britannica Educationl Corporation and the Bell and Howell Corporation, in September, 1965. The firms took the leadership in providing audio-visual equipment and materials for a demonstration of the maximum availability concept. The basic idea was that teaching and learning would be improved through the use of educational media when the media were maximally available to the regular classroom. Maximum availability is defined as a library of materials sufficient in number to serve all teachers and students upon demand. The media were available for all grade levels and for all subject matter areas. In addition, all the possible mechanical and administrative impediments to the use of educational media were eliminated.

Project Discovery was designed to test the effect of maximum availability of instructional materials on curriculum, pupil attitudes, achievement, creativity and motivation, and on teaching methods and techniques. The objective of this study was to develop selected information about changes in curriculum and classroom procedures during such project. Studies of the innovation process in agriculture, medicine and, to some extent, in education indicate the crucial part played by actual demonstration of new practices in producing desired changes. In education particularly, it is important that demonstration of new techniques, processes, and materials be encouraged in order to assist schools and school people to close the gap between what schools are and what they should be in our rapidly changing and evermore complex culture. There should be widespread dissemination of information about these demonstrations, and their characteristics should be such that they can be transferred into practice in similar school situations. The logic of demonstration activity

could be described as follows: (1) educators will adopt those practices which are supported by practical evidence and, (2) demonstrations provide practical evidence for decision making because:

a.) demonstrations are visible, therefore evidential;

b.) demonstrations are operational, therefore practical;

c.) visible operations are practical evidence.

Specifically, the project sought:

a.) to describe the instructional and administrative processes in a demonstration of the use of new media;

b.) to record positive and negative results and effects of the demonstration and record the rationales for decision making in the immediate situation;

c.) to define the specifics of the immediate situation in a context which permits and encourages generalization to other settings;

d.) to describe the evolution of the demonstration and the administrative logistical and process decisions which might enable others to implement the demonstration in other settings.

Thus, Project Discovery saturated the school with equipment and materials, and through a carefully developed research design, observed and tested behavioral and educational changes. The entire film and filmstrip library of Encyclopaedia Britannica and selected materials from Films Associates and the National Film Board of Canada were placed on open shelves, in an integrated fashion, as part of the centralized instructional materials collection in the library for the use of this single building. The library includes approximately five hundred films and over one thousand filmstrips. Periodically, new materials were provided, evaluated and systematically added to the library. Bell and Howell placed an automatic self-threading 16mm motion picture projector and an auto-load filmstrip projector permanently in each classroom. Additional equipment was

made available for individual and small group use within the library and conference room. Projector stands, remote control systems, darkening control drapes and permanently mounted wall screens were placed in each classroom. This eliminated all physical deterrents to optimum group and individual utilization practices. The school district expanded and developed the school library to meet the American Association of School Librarians' standards for elementary school libraries, and provided a full-time, credentialed librarian for the school.

## DESIGN OF THE STUDY

### Statement of the Problem

The justification for using filmed materials in the classroom is that visual material can and should be made available in such a way that the learning experienced is enhanced. To do this, all teaching materials should be integrated for maximum impact on the learning experience. While films and filmstrips are considered potentially valuable supplements to the instructional process they cannot be adequately integrated because of:

a.) the logistical problems that exist in their acquisition.

Attempts to order films for a particular use often result in the film arriving too late or too early for appropriate use. In addition, the well-designed plan to use a particular film at a particular time is frequently subverted by the teachers' lack of control over contingencies occurring in their organizational life, with required shifts in lesson plans.

b.) teacher attitudes.

Attitudes involving a fear that replacement of tested materials and techniques would be necessary if extensive use of audio-visual materials were to take place.

As a result of these two factors some teachers feel constrained to explain why they use films. They often characterize resulting unintegrated film use as a lazy way to handle curricular processes, and the unfortunate fact is that the visual materials used often have little relevance to other aspects of the subject concepts they are presenting. Thus, logistical problems and teacher attitudes prevent visual teaching material from being sufficiently well integrated to be of much use either with entire classes, in smaller groups, or in various forms of repetitive use. Thus, a valuable resource is wasted. Thomas Edison's participation in Project Discovery with the resulting maximum availability of

audio-visual materials removed the logistical problems.

Teachers had films available for immediate preview, study and evaluation. Familiarity with the materials and their ready availability provided the setting in which integration of the materials with other media could occur. Therefore, integration of visual materials was increased and the potential of the materials was realized in an increased contribution of all media to the learning experience.

Vital to the development of the teaching staff at Thomas Edison School was the need to investigate, experiment, discover, and shape methods of applying audio-visual materials integrally with course content, both contextually and chronologically. A systematic study of the varieties of ways integration could be accomplished emerged from an aggressive exploration of a natural classroom setting and resulted in the identification of many new procedures which made more effective use of such rich resources.

A belief that an examination and identification of the ways in which audio-visual materials could be integrated into instructional procedures in which each facet of the instructional complex reinforced the other, prompted the design of this study proposal. In effect it might be demonstrated that a greater, more imaginative use of audio-visual materials would expand the amount of reading, class projects and various other co-curricular activities that are appropriate investments of a student's learning energies.

Historically, the theory of audio-visual use has repeatedly called for this type of integration with other teaching media, but limited development in this direction has been accomplished. Such a task can only be accomplished under conditions where audio-visual equipment and filmed materials exist in abundance and where no logistical problems are experienced by the teachers. Fortunately, Project Discovery provided the desired conditions and opportunities to work toward a solution to the curricular problem.

## Objectives

1. To identify the types and extent of audio-visual integration with other instructional practices that teachers developed under the influence of maximum availability, where logistical problems are removed and integrative practices could be developed.
2. To determine what effect wider use of audio-visual media had on the use of older or more traditional instructional media.
3. To examine the nature of change in teacher attitudes toward audio-visual media and the integrative process as a result of maximum availability.
4. To examine the relationships between integrated audio-visual materials and student learning activities.
5. To develop specific curriculum recommendations for integrating and expanding the relationships between audio-visual materials and other aspects of the instructional processes.

## Procedures

The design of the study was quite straightforward. The attempt was made to gather data directly through questionnaires and records of the teachers' and students' reactions to various aspects of the school program seen as connected with the enriched availability of audio-visual materials. The use of control groups was irrelevant to the objectives set up for the study and data was gathered only from the teachers and students at Thomas Edison School, with three exceptions. For an investigation into the possible relationship between audio-visual media and field trips, a comparison of number of trips made during the year at Thomas Edison was made with a neighboring, comparable school in order to establish a baseline to interpret the results. The other exceptions came in the case of data gathered from students about their feelings toward the school and toward films and filmstrips, and in a sociometric study of cross-class and cross-grade student relationships, where once again it was felt that comparable baseline data from another school was needed.

In all cases where it was possible the data gathering instruments were administered twice, once in February and once in June. There is some question as to how meaningful this data is since the school actually began the audio-visual enrichment in September and had been involved in integrating these materials with the regular curriculum for five months prior to the first data gathering reported here. This is certainly unfortunate but the grant which supported the study was not made available until the later time.

In what follows in this section each of the objectives will be restated and then the kind of data gathered to achieve the objective will be described together with the method by which it was gathered.

1. To identify the types and extent of audio-visual integration with other instructional practices that teachers develop under the influence of

"maximum availability", where logistical problems are removed and integrative practices can be developed.

Information relative to this objective was made by designing a "check-out form" filled in by the teachers and students each time any of the audio-visual materials were withdrawn from the library. This form showed the type of material used, the location in which it was to be used, and the purposes for which it was to be used. This information was gathered continuously from February through the end of the school year. A copy of this form can be found in Appendix I.

2. To determine what effect wider use of audio-visual media will have on the older or more traditional instructional media.

Data on this matter were gathered through the use of a locally devised questionnaire divided into eleven parts concerned with 1) the materials students voluntarily brought to class, 2) the relationships between items brought to class and on-going classroom activities, 3) whether the variety of items increased in the February-June period as compared to the September-January period, 4) changes in the degree of student initiative in participation and studies comparing the pre-Project Discovery period with the current year, 5) the influence of Project Discovery on teacher preparation and presentation of classroom materials, 6) changes in teaching expected by the teacher after Project Discovery ends, 7) differences seen by the teacher between students who used audio-visual materials away from school and those who did not, 8) changes seen by the teacher in parent-teacher relations since the beginning of Project Discovery, 9) the characteristics of class projects comparing the pre and post Project Discovery period, 10) the use of outside resource people pre and post Project Discovery, and 11) information about the teachers experience in teaching.

This information was gathered in June, 1966, immediately before the end of the school year in which Project Discovery was a part of their teaching

experience. A copy of the teacher questionnaire is included as Appendix II.

3. To examine the nature of change in teacher attitudes toward audio-visual media and the integrative process as a result of "maximum availability."

In order to measure changes in teacher attitude toward audio-visual media and their use, an Opinionnaire developed at Ohio State University was used. This consisted of two parts. On Part I, teachers were presented with 28 scales which were anchored at each end by more or less polar adjectives such as "enthusiastic" and "indifferent." Between the adjectives were six spaces representing varying positions with regard to the two poles of the scale. Each teacher was asked to place a checkmark in the space which represented their feelings about films and filmstrips. Part II consisted of 57 statements about the use of films and filmstrips in teaching. Teachers were asked to mark their degree of agreement or disagreement with each statement on a six point scale ranging from "strongly agree" to "strongly disagree."

This Opinionnaire was administered in the early fall and again in the late spring to all teachers in the school. A copy of the two part instrument appears in Appendix III.

4. To examine the relationships between integrated audio-visual materials and student learning activities.

Four different methods were used to assess changes in student activities and student reactions to the use of audio-visual materials.

Since a number of projects developed in which a group of students would work together finding resource materials or one child would take a film home and invite his friends in to see a showing and also because it was found that older students were often helping younger students to find materials and to work with the proejctors it was decided to construct a sociograph. It was believed that friendship lines might be strengthened and actually cross class and grade levels as a result of these contacts. In order to have a base line for interpreting the results of the sociograph, a similar sociographic study was made

in a neighboring and comparable school.

The sociograph* consists of asking each child to list the names of five other children he would like to have for friends and five he would least prefer to have as friends. It is possible from this data to construct a graph which represents the network of relationships within a class or larger group. This instrument was used only with the third, fourth, fifth, and sixth grades. Because of the complexity involved in collecting and analyzing the data it was administered only one time during the spring semester. The actual data from this instrument which was studied, and is reported later, concerns only the choices made by students outside their own classes and grade levels by comparison with the comparable school. A copy of the form used to collect these data is included as Appendix IV.

The second method of data gathering consisted of an open-ended Fill-In Questionnaire consisting of 26 lead-in sentences which the children were to complete according to their feelings. There were actually 13 areas being studied as each item was presented in two similar but not identical ways in order to increase the reliability of the interpretation. Each item was scored in terms of whether the child's completion showed positive, negative, or neutral or ambiguous feeling tone. All of the items were concerned with the child's feeling toward aspects of school and audio-visual media. A copy of the Fill-In Questionnaire is in Appendix V.

Further information was gathered by using a Student Opinionnaire. This consisted of 15 items about films and filmstrips which the students marked on a three point scale of "agree", "disgree", or "can't decide." This instrument was administered in February and again in June. A copy of the form is in Appendix VI.

*CLARK, Rodney A. Sociographic Analysis. San Francisco State College, 1961.

As a fourth kind of data concerning student learning activities, information was gathered about the number of field trips during the spring and fall and their frequency was compared with a neighboring school with equal access to transportation facilities. It is not clear that the availability of audio-visual materials is directly responsible for any changes with regard to field trips, but such learning activities are consistent with the general increase in student involvement fostered by a program which encourages students to reach beyond the normal classroom activities.

5. To develop specific curriculum recommendations for integrating and expanding the relationships between audio-visual materials and other aspects of the instructional processes.

The Principal and others involved in Project Discovery met frequently with all the teachers in the school and discussed the project, helping teachers to share their experiences, clarify any problems, and describe various ways in which they found value in the more extensive utilization of audio-visual materials. This data was gathered informally and is reported in a summary statement by the Principal.

## RESULTS AND DISCUSSION

The data relevant to each of the five objectives of the study will be presented in sequence.

1. The first question implicit in the objective concerned the kinds of use which would be made by the teachers of the audio-visual material. The following paragraph presents a summary of the data gathered by having teachers fill in a data card each time they used a film or filmstrip.

The record of the number of films and filmstrips checked out by each teacher and summarized by months showed no pattern of differential usage at different times of the year. The number of films checked out per month averaged 250 and the number of filmstrips averaged 39 per month. The range ran from a low of 235 films in one month (April) to a high of 277 (November). The filmstrips ranged from a low of 15 (June) to a high of 69 (April). Approximately 80% of all film and filmstrip usage was in the classroom with about 15% used in the home and the rest in the film library.

Individual teachers varied tremendously in the amount of use of these audio-visual materials. For checking out films one teacher used only 25 during the entire year while the highest usage was 213. There were several teachers who made no use of filmstrips and the teacher who used them most checked out 45 during the year.

The table below shows the purposes for which the films and filmstrips were used. The figures show the percentage of total usage which fell into the designated category.

It can be seen that the major use of films and filmstrips was to inform children on the subject of the film. The second most frequent use of films was divided between the teacher previewing the film and using the film to review material in the classroom. It can also be seen that the use of films as the

basis for discussion and as a way to motivate children was relatively infrequent. The table also shows that teachers rarely used the films or filmstrips because of personal interest.

Table I. Purposes for which films and filmstrips used, as a percentage of total usage.

| Purpose | Films | Filmstrips |
|---|---|---|
| Enrich | 7 | 12 |
| Discuss | 2 | 2 |
| Inform | 34 | 26 |
| Introduce | 9 | 13 |
| Motivate | 7 | 4 |
| Preview | 14 | 16 |
| Reinforce | 9 | 13 |
| Review | 14 | 6 |
| Personal Interest | 1 | 0 |
| Other | 3 | 8 |

It would appear from the expressed purposes of teachers in using the films and filmstrips that they were mainly used to supplement or carry on regular classroom procedures of informing, reviewing, and reinforcing the students' learning.

2. The data relevant to the effect of audio-visual media on more traditional instructional media is in the form of individual teacher statements in answer to general questions about their activities and those of the children in the classroom. The results from each of the questions will be summarized.

a. The first questions asked about items which the children had brought into the classroom since February, their nature, their relationship to classroom activities and whether or not the number and variety had increased in the spring as compared with the fall.

Teachers listed a wide variety of items brought by the children including newspaper and magazine articles, picked sea life, costumes, collections of rocks, stamps, seashells, dolls, money and live animals, and in addition, books, foods and in some cases, early artifacts.

All teachers believed that the use of films and filmstrips in their classes had triggered the bringing of some of these items to class. When asked to estimate the proportion of items thus triggered the teachers guesses ranged from one-fifth to four-fifths of the items. The median estimate was two-fifths. Two-thirds of the teachers believed that more items were brought by children in the spring than in the fall as a kind of cmulative effect of having used films and filmstrips.

Other questions elicited answers indicating that in general there had been an increase in the bringing of items related to the on-going class activities and a decrease of items of just personal or general interest. An overwhelming majority of the items brought to class related to science or the social sciences.

b. The next question asked teachers about any changes in the degree of student initiative in their participation in class by comparison with the year before Project Discovery began.

Ninety-five percent of the teachers felt that students were definitely taking more initiative in classroom participation than had been true the year before Project Discovery. Some of the differences enumerated by teachers were: children more realistic, greater depth of understanding, children better self directed, more enthusiasm, new interest areas appeared, children more frequently took out books related to a film or filmstrip, and that in general the children seemed to be more motivated toward classroom work.

c. The teachers were asked to describe the ways in which Project Discovery had influenced their preparation and presentations in class.

The descriptive answers to not lend themselves to easy generalizations but almost all teachers agreed that they were now doing much more previewing of films and using more films in class. More individual responses emphasized feelings of greater confidence in teaching, a greater sensitivity to student reactions, more diversification of classroom learning experiences, more experimentation in teaching, that films were a source of new teaching ideas and that learning appeared to take place in greater depth.

d. Teachers were asked how they thought their teaching would change after Project Discovery was over and the materials and equipment returned.

While the reactions varied in detail, almost all teachers indicated that they would feel a tremendous loss and that they would try to supplement in some way by drawing more frequently on the district film library or by making private arrangements.

e. The teachers were asked if they could characterize the differences between children who took audio-visual material home and those who did not. No unique characteristics were noted.

f. An inquiry was made with regard to any changes the teachers had noted in parent-school relationships.

There seemed to be general agreement among teachers that they see the parents more often when they come to pick up projectors and that the relationships with parents were closer than formerly. There were many individual comments indicating greater parent interest in the school and what was being taught. One teacher noted that the parents of children having trouble in school did not come in any more frequently, nor did these children ask to use the audio-visual materials at home.

g. The teachers were asked to discuss any differences in class projects, comparing the spring to the fall and the Project Discovery year to the year before.

About one-half of teachers responded that they could see no differences in class projects. The other half indicated that there were definitely increases during the spring as compared to the fall and increases for the entire year over the year before. These teachers also linked the changes to ideas which had come from films or filmstrips. It seems clear that for the teacher who is inclined to use class projects that films are a further stimulus to their use.

h. The next question inquired about the use of outside resource people, comparing spring with fall and the current year with the previous one.

Only one teacher indicated any increase in the use of outside resource people to speak to her class. All the rest of the teachers responded that there were no differences among the compared time periods. About half of them said that a heavy percentage of the visitors had come at the request of the children but there was no clear link shown between the increased use of audio-visual media and the use of outside resource people.

3. Data relating to changes in teacher attitudes toward audio-visual media and their use, as a result of Project Discovery, was derived from an Opinionnaire.

On the first part of the Opinionnaire the teachers marked 28 scales anchored on one end by a positive adjective and the other by a negative adjective, in terms of how it applied to their feelings about films and filmstrips. They marked these scales in the fall of 1965 and again in the spring of 1966 after a year of work with the Project Discovery materials. A comparison of the mean score on each scale for the group of teachers before the project with the mean after the project showed that on 19 of the 28 scales the teachers gave films and filmstrips a more positive rating at the end of the Project Discovery year. The probability of change in a positive direction of 19 out of 28 scales significantly exceeds chance ($p<.05$). This supports the conclusions that attitudes

of teachers toward audio-visual media became significantly more positive as a result of Project Discovery.

The second part of the Opinionnaire contained 57 statements with which the teacher could indicate varying degrees of agreement or disagreement. The statements were so worded that they were either supportive or critical of some aspect of films and filmstrips and their use in the classroom. This data was gathered in the fall of 1965 and the spring of 1966. The mean scores for the teacher group were computed by assigning a value of one to strongly agree, a value of two to moderately agree, and so on up to a six for strongly disagree. On 23 of the 57 items the mean score after Project Discovery was more positive than before the project. On 21 of the 57 items the mean score was less positive and on 13 of the items there was no change between pre and post test means. In most cases, the difference between pre and post test means was small and the fact that the pre and post test changes became both positive and negative in about the same degree does not really reveal the meaning of the data. For example, one item states, "Generally, it is difficult to integrate films with specific lessons." On the pre test teachers gave this a mean score of 5.3 (6 is strongly disagree) and on the post test the mean score was 5.1. In both cases teachers were agreeing that films are not difficult to integrate with specific lessons but on the post test their feeling was slightly less strong. The means on all of these could have been thrown off by a single teacher who felt very negative about the project. It is not practical to present each of the items in the body of this report but the test and the pre and post test mean scores for each item are in Appendix III. It is possible to make a general statement that in both the pre and post test ratings the teachers were overwhelmingly positive in their attitudes toward films.

4. The results of studying various facets of change in student activities

as an outcome of providing easily available audio-visual materials is presented below.

It had been noticed that when students were working on some audio-visual project in the library or when they took films home they often met with children from other classes and sometimes with children from other grades than their own. Since this could have an effect on friendship lines it was decided to make a sociograph and study the frequency of positive and negative choices made to other classes and grades. Since it was not possible in the time available to make this a before and after Project Discovery study, a neighboring and comparable school was also made the subject of a sociograph and the choices outside of home classes were compared between the two schools. The frequencies of positive and negative choices into other classes was compared for the schools by the use of $\lambda^2$ and it was found that at the Project Discovery school significantly more positive choices were made of children in other classes. A similar $\lambda^2$ test was made with regard to choices into other grades with a similar finding. The children at Thomas Edison (the Project Discovery school) made significantly more positive choices of children in other grades than was true at the comparison school. It is not clear that the increased use of audio-visual material is the actual cause of this difference but, based on the original observation of children working together, it is quite likely the cause.

The second aspect of student change related to Project Discovery consisted of an open-ended Fill-In Questionnaire administered to the students. Once again it was not possible to carry out a meaningful pre-post measurement because of the limited time so the Fill-In Questionnaire was also administered to a comparable school group in a neighboring school. The children in both schools showed overwhelmingly positive responses in completing the unfinished sentences about school, teachers, films, etc. When a comparison was made of the overall

scores for the two schools the mean score for Thomas Edison was significantly greater than for the comparison school. They expressed more positive feelings. Almost all of the difference was due to the responses of the favorable females which were significantly more positive than either the males at Thomas Edison or the males or females at the comparison school. It is not clear whether the use of audio-visual was responsible for this more favorable response or why there should have been this differentiation on the basis of sex. One interesting trend showed in the results. At the comparison school children in the upper grades seemed less favorably disposed toward films than in the lower grades. This was not true at Thomas Edison where the responses were equally favorable at all grades.

A further attitude measure was used in the form of a Student Opinionnaire. There were 15 statements all of which concerned feelings about films and filmstrips. Students marked them "agree", "disagree", or "can't decide." The Opinionnaire was administered in the fall and again the following spring in May. The responses on the pre test were highly favorable toward films and filmstrips but despite this the post test for each of the grade levels three through six on the fifteen items showed 35 changes in an even more positive direction, 18 changes in a negative direction and seven instances of no change. This represents a significant change in a positive direction ($p<.05$).

One last variable which was studied in this area of change in student learning activities related to the use of field trips. It was anticipated that the general awakening of more varied interests through audio-visual materials might lead to a desire to take more such trips. Again, a comparison was made between Thomas Edison and a neighboring school which served as a base line. While both schools had equal access to district transportation for study trips, there were 77 trips made from Thomas Edison versus 41 trips from the

comparison school during the school year of 1965-65 and 52 versus 22 in 1965-66. There were fewer trips during the year of Project Discovery but these were carried out despite a bus strike which eliminated all transportation throughout the months of November and June. It should be noted, however, that the drop in trips was less at Thomas Edison and that the ratio between the two schools changed in a way which indicated greater interest and effort at Thomas Edison.

5. Data regarding curriculum recommendations for integrating and expanding the relationships between audio-visual materials and other aspects of the instructional processes was gathered informally and is presented in a summary statement.

A variety of activities and findings regarding the use of audio-visual materials allowed the curriculum to be enriched. Foremost among these was the unique characteristics of the library and the concept of complete integration of the materials it houses: books, films, filmstrips, art prints, recordings, study prints and projectors. This physical integration psychologically reinforced the multi-media approach to instructional materials and constantly reminded children and teachers that there are many sources of information.

Teachers perceived and utilized the librarian as a consultant to students and teachers with all teaching oriented to curriculum activities and conducted as a result of teacher-librarian planning. Teachers and librarian found that previewing all materials prior to incorporating their potential in a classroom teaching situation was essential. It was discovered that many previewed items did not lend themselves to developing the intended concepts or extend their teaching ability, and thus, teachers became more discriminate in the selection and use of available media. Their philosophy being that the media must implement the on-going curriculum rather than dictate it.

A school with this type of library places demands on teachers which can only be alleviated with updated college courses or extensive in-service workshops at the building level. The uses of the various materials should not be taught as a separate entity, but should be included as part of the methods and techniques in curriculum courses. It is only with this training that teachers develop an awareness of where the multi-media approach fits into a conceptual scheme of learning.

The experiences gathered in this study continually points to the importance of the administrative role. It is imperative that the administrator establish a climate and tone which is open and conducive to experimentation. His educational leadership should encompass a thorough understanding of library techniques and their interrelationship to the instructional program. Children became self-directed through the mechanical operation of equipment, development of research skills, accessibility of materials and contextual use in the ongoing curriculum. This self-direction expanded the potential of the child and placed additional demands on the librarian and teacher.

In order to use the librarian as a consultant community resources were recruited. The study showed that with a minimum of training, community aids could efficiently fulfill the necessary library tasks. The involvement of community personnel has lead to the support and commitment of the total school program.

Technology can not stand alone as a conductor of learning. Human roles involved and committed, knowledgeable and capable of fulfilling the teaching-learning process are necessary ingredients to the total instructional experience.

## CONCLUSIONS

Conclusions relevant to results and discussion of each of the five objectives are presented in sequence.

1. Individual teachers varied tremendously in the amount of use of the available audio-visual materials. The record of the number of films and filmstrips checked out by each teacher and summarized by months showed no pattern of differential usage at different times of the year.

It can be seen that the major use of films and filmstrips was to inform children on the subject of the film. The second most frequent use of films was divided between the teacher previewing the film and using the film to review material in the classroom. While Table 1 indicates that the use of films as the basis for discussion and as a way to motivate children was relatively infrequent, subjective classroom observation and discussions with teachers could not support this finding. On the contrary, and as supported by simultaneously collected data, motivation and discussion were an inherent aspect of the total project.

2. All teachers believe that the use of films and filmstrips in their classrooms triggered the bringing of a wide variety of items to class which related to on-going classroom activities. While related items increased, there was a decrease of items of a personal or general interest level. An overwhelming majority of items were related to science or the social sciences.

Ninety-five percent of the teachers felt that students were evidencing greater initiative and were seemingly more motivated to participate in classroom activities. Most all of the teachers agreed that their preparation and classroom presentations were significantly influenced by the project materials. Teachers also indicated that a loss of these materials would be supplemented by individually learned processes and arrangements.

Parent-school relationships were generally agreed to have been strengthened, with parents indicating a greater interest in the total curriculum. Teachers also felt that films and filmstrips were a further stimulus to class projects and to the changes in formulating ideas.

3. Teacher attitudes toward audio-visual media and their use became significantly more positive as a result of Project Discovery. In both the pre and post test ratings, teachers were overwhelmingly positive in their attitudes of films and filmstrips and their contribution to the instructional potential.

4. A sociograph regarding the relationship of children because of the availability of audio-visual materials for immediate classroom, library, and home use, revealed a greater frequency of positive attitude choices among children from differing classes and grades from the Thomas Edison School than those compared from the control school.

A Fill-In Questionnaire for children in both schools showed overwhelmingly positive responses in completing the unfinished sentences about school, teachers, films, books, etc. The mean score for Thomas Edison, however, was significantly greater than for the comparison school. It is interesting to note that at the comparison school children in the upper grades seemed less favorably disposed toward films than in the lower grades. This was not true at Thomas Edison where the responses were equally favorable at all grades.

A Student Opinionnaire regarding feelings about films and filmstrips revealed significant changes in a positive direction. A last variable studied in the area of change in student learning activities related to the use of field trips. It is surmised that the interests inspired through audio-visual materials led to the desire and need for more field trips.

5. A variety of activities and findings regarding the use of audio-visual materials allowed the curriculum to be enriched. Foremost among these was the

unique characteristics of the library and the concept of complete integration of the materials it houses: books, films, filmstrips, art prints, recordings, study prints and projectors. This physical integration psychologically reinforced the multi-media approach to instructional materials and constantly reminded children and teachers that there are many sources of information.

# APPENDIX I

THOMAS EDISON SCHOOL

Your teacher's name _____ Your name _____

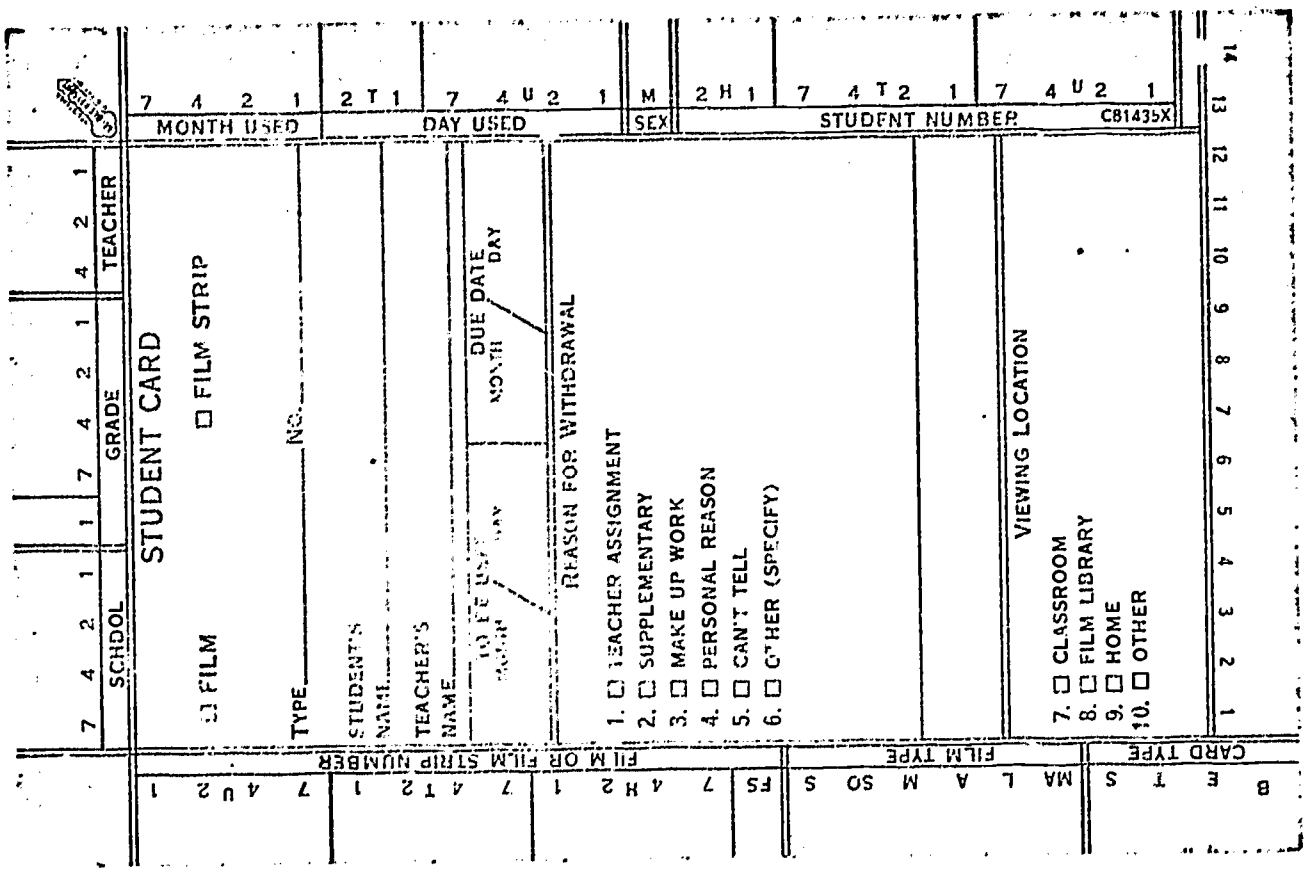
As you have used films and filmstrips, you have been filling out Student Cards like the one below. We would like to find out how you have marked REASON FOR WITHDRAWAL. For each reason we have made up, please do these two things:

1. On the left line put a "yes" or "no" to show if you have used a film or filmstrip for the same reason we made up.
2. On the right line put the number of the REASON FOR WITHDRAWAL from the Student Card that you would use if you were taking out a film or filmstrip for the reason in the question.

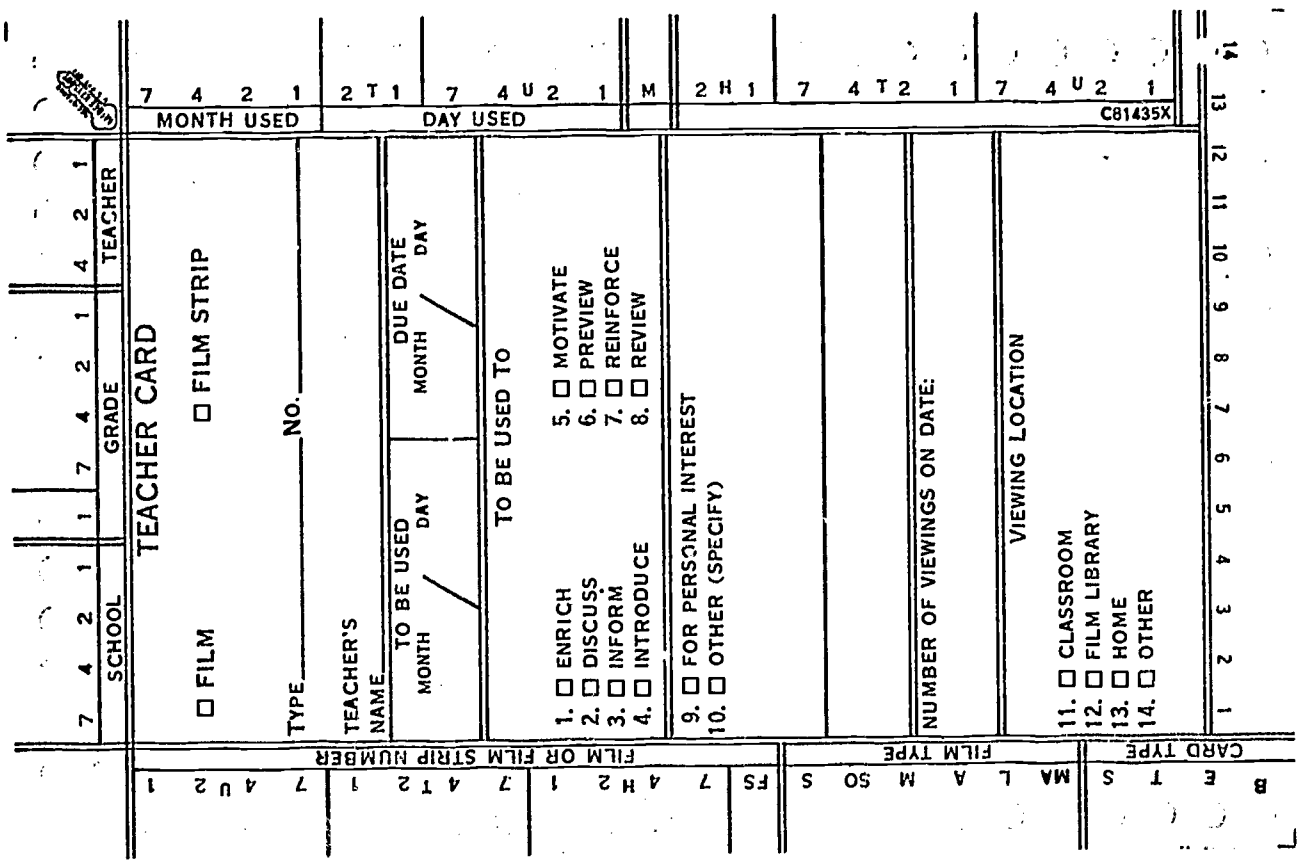
This is not a test, and there are no right or wrong answers.

| Have you used one for same reason? | Number from Student Card | | |
|---|---|---|---|
| _____ | _____ | q. | For study on a hobby or something you're interested in. |
| _____ | _____ | f. | For a report that you don't have to do, but are doing for fun. |
| _____ | _____ | l. | To see a film or filmstrip that you might have missed. |
| _____ | _____ | a. | For something like homework. |
| _____ | _____ | r. | Just for excitement or for fun. |
| _____ | _____ | m. | You forgot to see it and you'd better do it now. |
| _____ | _____ | g. | You were curious about something you studied. |
| _____ | _____ | @. | You couldn't find a box to say what you meant. |
| _____ | _____ | s. | You would rather not tell. |
| _____ | _____ | b. | To do committee work. |
| _____ | _____ | h. | To do something extra, like a report. |
| _____ | _____ | y. | For some kind of reason that wasn't on the card. |
| _____ | _____ | ç. | You couldn't decide which box to mark. |
| _____ | _____ | c. | For some kind of school work like a report or something that you have to do. |

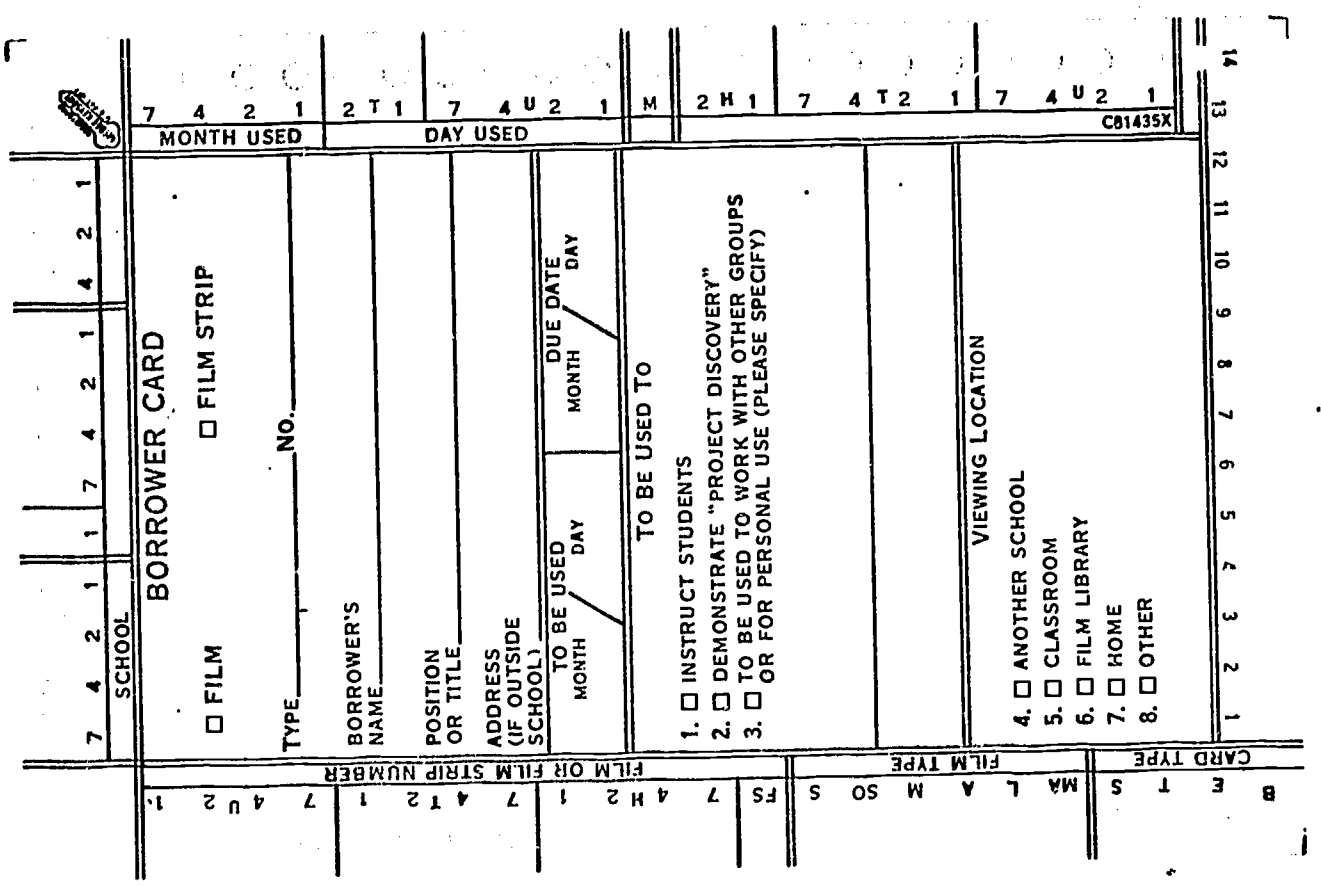
| Have you used one for same reason? | Number from Student Card | | |
|---|---|---|---|
| _____ | _____ | i. | When your class had studied something and you wanted to find out more about it. |
| _____ | _____ | t. | You wanted to see a film or filmstrip your class was not even interested in. |
| _____ | _____ | u. | To take the projector home. |
| _____ | _____ | d. | When your teacher tells you to do a report, and you want to see the film or filmstrip to make the report. |
| _____ | _____ | j. | To see a film or filmstrip on something that your teacher said you were going to study later. |
| _____ | _____ | v. | You have your own reason, and that's private. |
| _____ | _____ | n. | If you didn't understand it in class and want to try on your own. |
| _____ | _____ | *. | You just don't know why you wanted to see it, maybe there's just nothing else to do. |
| _____ | _____ | z. | When you check it out for parents or relatives when they visit. |
| _____ | _____ | w. | You just were interested in the film for a personal reason. |
| _____ | _____ | o. | Something you were supposed to do before but didn't. |
| _____ | _____ | k. | When you're done with something and go to the library to see one related to your class's study. |
| _____ | _____ | p. | Work that you didn't get, so you look at a film or filmstrip. |
| _____ | _____ | e. | When your teacher tells you what films or filmstrips to see and to make a report on them. |
| _____ | _____ | #. | You're not sure why; you just wanted to take it out. |
| _____ | _____ | x. | You had a reason that you'd better not tell about. |




(Buff)




(Green)




(White)

# APPENDIX II

THOMAS EDISON SCHOOL

Name _____ Date _____

I. Please list, as well as you can recall, the materials, collections, objects, newspaper and magazine articles or clippings, realia (artifacts), etc. that students have brought into your class since the beginning of February. (Use other side if more space is needed.)

II. Please us the following fractions to answer the questions in this section:

0: never or none
1/5: about 1/5 (of the time) or (of them)
2/5: about 2/5 (of the time) or (of them)
3/5: about 3/5 (of the time) or (of them)
4/5: about 4/5 (of the time) or (of them)
all: all or almost all (of the time) or (of them)

1. You feel that films and/or filmstrips resulted in or triggered the bringing in of what proportions of the items the students have brought into your class since the beginning of February?_____

Has this been (circle one) more often, about the same, or less often than between September or January 31?

2. In general how often have the items which the students have brought in since the beginning of February been related to the students' individual, but non-curricular interests?_____

Has this been (circle one) more often, about the same, or less often than between September and January 31?

3. In general since the beginning of February how often have these items been related to study that has been assigned to small groups or committees?_____

Has this been (circle one) more often, about the same, or less often than between September and January 31?

4. In general since the beginning of February how often have these items been related to your on-going total class program?_____

Has this been (circle one) more often, about the same, or less often than between September and January 31?

5. In general since the beginning of February how often have these items been related (primarily) to study assigned to individual pupils?_____

Has this been (circle one) more often, about the same, or less often than between September and January 31?

6. Please indicate what fraction of the time you feel each of the following have been true for your class:

(a) In general these items have had a direct relationship to the unit in progress. _____

(b) In general these items have had a direct relationship to the unit in progress only because of films and filmstrips. _____

(c) In general these items have been at most only slightly related to the unit in progress, but have been related to students' film and/or filmstrip use. _____

(d) In general these items have been at most only slightly related to both the unit in progress and to students' film and filmstrip use. _____

7. To which subject areas have these items been related most often? (If you can rate the subject areas according to fraction of the time the items have been related--using the rating scale given at the beginning of the section--please do so.)

III. Has there been (circle one) more, less, or about the same degree of variety in the items your students have brought into class since the beginning of February as contrasted to the time between September and January 31?

IV. Do you feel that you have noticed a different level of individual student initiative in what your students have said, studied, or done this year as contrasted with before Project Discovery began?_____

If so, what has been the nature of this difference?

V. Please list the ways and/or describe briefly how Project Discovery has influenced your teaching preparation and/or presentation (e.g., in the areas of previewing, methods, results, student reaction, student assignments, etc.)

VI. After the Project Discovery materials are returned and the project is over, in what ways do you expect your teaching to be different (as contrasted to before Project Discovery or to how you expect you would have been without Project Discovery)?

VII. Have you found that some of your students have made significantly more and/or better use of the project materials away from school?

If so, can you characterize these students (as contrasted to the ones who make less or poorer use of the materials away from school)?

Please also comment on the causes, consequences, and nature of these differences as you see them.

VIII. Have you found that parent-school relations or your relations with your students' parents have changed since Project Discovery began?_____

If so, please describe how they have changed and describe the causes as you see them.

IX. 1. Please discuss the nature of, and causes for the differences in class projects in your class since February as contrasted with the time between September and the end of January with respect to the following dimensions (if differences do not exist, write "same"):

(a) The number of class projects

(b) The degree of student initiation of the projects

(c) The degree of student participation and involvement in the projects

(d) Involvement of film and filmstrip materials

(e) Involvement of other media

(f) Other factors which you see as important

2. Now please use the same dimensions to contrast and compare the class projects since September with those last year. Again discuss the causes for any differences you've noted.

(a) The number of class projects

(b) The degree of student initiation of the projects

(c) The degree of student participation and involvement in projects

(d) Involvement of film and filmstrip materials

(e) Involvement of other media

(f) Other factors you see as important

X. 1. Please discuss the nature of and causes for differences in the use of outside resource people in your class since February as contrasted with the time between September and the end of January with respect to the following dimensions:

(a) The number of outside resource people used or number of occasions of use

(b) The degree of student initiation of and responsibility for the invitation or use made of the resource people

(c) Other factors you see as important

2. Now please use the same dimensions to contrast and compare your use of outside resource people this year with last school year. Again please discuss any causes for the differences you've noted.

(a) The number of outside resource people used or number of occasions of use

(b) The degree of student initiation of, and responsibility for, the invitation or use made of the resource people

(c) Other factors you see as important.

XII. 1. How many years (or months) have you been teaching school?

2. How long have you taught at the grade level you're currently teaching? _____ What other grade levels have you taught and how long for each?

3. How long have you been teaching at Thomas Edison?

# APPENDIX III

## TEACHER OPINIONNAIRE

### PART I

**Directions:** We are interested in how you as a teacher <u>feel</u> about films and filmstrips used in school. Below is a list of words which present opposite feelings toward educational films and filmstrips. Some of them will seem more important than others. Some will not make much sense to you. Answer as best you can by checking (✓) your first impression.

Read each pair of opposites and put a check (✓) some place between them--wherever you think it belongs to describe YOUR REACTION to films and filmstrips.

Example:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| happy | | | | | | ✓ | sad |

If you feel that films are very happy, please a check (✓) in a space to the left. If you feel that films are fairly happy, place a check (✓) in a space to the left of the center. If you feel that films are very sad, place a check (✓) in a space to the right as illustrated.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| thrilled | | | | | | | agitated |
| enthusiastic | | | | | | | indifferent |
| calm | | | | | | | irritated |
| adventurous | | | | | | | unadventurous |
| resigned | | | | | | | zealous |
| confident | | | | | | | nervous |
| bored | | | | | | | stimulated |
| dejected | | | | | | | cheerful |
| contented | | | | | | | discontented |
| encouraged | | | | | | | discouraged |
| annoyed | | | | | | | pleased |
| amused | | | | | | | weary |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| willing | | | | | | | unwilling |
| patient | | | | | | | impatient |
| anxious | | | | | | | unconcerned |
| ungrateful | | | | | | | grateful |
| dissatisfied | | | | | | | satisfied |
| secure | | | | | | | afraid |
| comfortable | | | | | | | uncomfortable |
| bad | | | | | | | good |
| sympathetic | | | | | | | unsympathetic |
| sluggish | | | | | | | alert |
| impressed | | | | | | | unimpressed |
| friendly | | | | | | | unfriendly |
| alarmed | | | | | | | unalarmed |
| tolerant | | | | | | | intolerant |
| dismayed | | | | | | | undismayed |
| optimistic | | | | | | | pessimistic |

## PART II

**Directions:** In this section, we are interested in your professional judgment. The statements are intended to represent opinions, rather than facts. Please respond to the statements with <u>your opinion as a teacher.</u> You may respond to the statements in the following ways:

Place a check (✓) in column 1 if you <u>strongly agree</u>
Place a check (✓) in column 2 if you <u>moderately agree</u>
Place a check (✓) in column 3 if you <u>mildly agree</u>
Place a check (✓) in column 4 if you <u>mildly disagree</u>
Place a check (✓) in column 5 if you <u>moderately disagree</u>
Place a check (✓) in column 6 if you <u>strongly disagree</u>

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1. Films and filmstrips on the whole seem to be an asset to education. | ___ | ___ | ___ | ___ | ___ | ___ |
| 2. Films and filmstrips do not suitably provide for the special needs of bright students. | ___ | ___ | ___ | ___ | ___ | ___ |
| 3. Most films are produced for use with older students. | ___ | ___ | ___ | ___ | ___ | ___ |
| 4. Films and filmstrips give little opportunity to provide for the individual differences of children. | ___ | ___ | ___ | ___ | ___ | ___ |
| 5. The problems of arranging a room to show a film or filmstrip more than counteract the educational value of the media. | ___ | ___ | ___ | ___ | ___ | ___ |
| 6. Films and filmstrips are helpful in pointing up significant points in a unit of work. | ___ | ___ | ___ | ___ | ___ | ___ |
| 7. Films and filmstrips are helpful in raising the vocabulary level of students. | ___ | ___ | ___ | ___ | ___ | ___ |
| 8. Books generally provide a faster way to obtain information than do films and filmstrips. | ___ | ___ | ___ | ___ | ___ | ___ |
| 9. Generally, it is difficult to integrate films with specific lessons. | ___ | ___ | ___ | ___ | ___ | ___ |

1. strongly agree
2. moderately agree
3. mildly agree
4. mildly disagree
5. moderately disagree
6. strongly disagree

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 10. The "authoritative" presentations of most films and filmstrips tend to produce an uncritical acceptance on the part of most students. | ___ | ___ | ___ | ___ | ___ | ___ |
| 11. Films and filmstrips are paced so fast that it is difficult for students to remember all that they see and hear. | ___ | ___ | ___ | ___ | ___ | ___ |
| 12. Except for science and social science films, the subject matter range of films is quite limited. | ___ | ___ | ___ | ___ | ___ | ___ |
| 13. Films and filmstrips are usually not as useful in the higher grades as they are in the primary grades. | ___ | ___ | ___ | ___ | ___ | ___ |
| 14. Pictorial materials, such as films and filmstrips, are particularly suited to slow learners. | ___ | ___ | ___ | ___ | ___ | ___ |
| 15. Films and filmstrips are so specific as to have little adaptability to different teaching requirements. | ___ | ___ | ___ | ___ | ___ | ___ |
| 16. The extensive planning and preparation in producing a film gives the children an unusual opportunity to see the overall structure and organization of a topic. | ___ | ___ | ___ | ___ | ___ | ___ |
| 17. Films and filmstrips do not satisfactorily anticipate problem areas that might confuse children. | ___ | ___ | ___ | ___ | ___ | ___ |
| 18. The use of films and filmstrips provides the teacher with more time to work with individual students. | ___ | ___ | ___ | ___ | ___ | ___ |
| 19. In general, my teaching load is lessened by the use of films and filmstrips. | ___ | ___ | ___ | ___ | ___ | ___ |

1. strongly agree
2. moderately agree
3. mildly agree
4. mildly disagree
5. moderately disagree
6. strongly disagree

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 20. Extensive use of films and filmstrips degrades the teacher's role to taking care of paper work. | ___ | ___ | ___ | ___ | ___ | ___ |
| 21. If you want to focus the class on particular aspects of a topic, films and filmstrips are quite useful. | ___ | ___ | ___ | ___ | ___ | ___ |
| 22. Films often tend to stress unimportant facts. | ___ | ___ | ___ | ___ | ___ | ___ |
| 23. Films provide a better description of other countries than do textbooks. | ___ | ___ | ___ | ___ | ___ | ___ |
| 24. Students tend to become passive when films and filmstrips are used. | ___ | ___ | ___ | ___ | ___ | ___ |
| 25. Students take more responsibility for individual projects when they are using films and filmstrips. | ___ | ___ | ___ | ___ | ___ | ___ |
| 26. Students see films and filmstrips as entertainment rather than as instruction. | ___ | ___ | ___ | ___ | ___ | ___ |
| 27. Films and filmstrips primarily present facts. | ___ | ___ | ___ | ___ | ___ | ___ |
| 28. Students retain information longer when it has been presented by means of films and filmstrips. | ___ | ___ | ___ | ___ | ___ | ___ |
| 29. Children tend to respond to the unimportant details in films and filmstrips. | ___ | ___ | ___ | ___ | ___ | ___ |
| 30. The use of films stimulates the exploration of individual interests. | ___ | ___ | ___ | ___ | ___ | ___ |
| 31. Students generally cannot remember questions that come to mind as they view a film when they have to wait until after the film is over to ask the questions. | ___ | ___ | ___ | ___ | ___ | ___ |

1. strongly agree
2. moderately agree
3. mildly agree
4. mildly disagree
5. moderately disagree
6. strongly disagree

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 32. Films are often effective because they are a novelty. | ___ | ___ | ___ | ___ | ___ | ___ |
| 33. The use of films and filmstrips is a major advance in providing for the individual learning needs of students. | ___ | ___ | ___ | ___ | ___ | ___ |
| 34. Films and filmstrips stimulate class discussions. | ___ | ___ | ___ | ___ | ___ | ___ |
| 35. Students read less when they can view films and filmstrips. | ___ | ___ | ___ | ___ | ___ | ___ |
| 36. Films and filmstrips make it so easy to teach facts that teachers tend to overlook such things as concept development when they use films. | ___ | ___ | ___ | ___ | ___ | ___ |
| 37. Children seem to do more independent study when films and filmstrips are available to them. | ___ | ___ | ___ | ___ | ___ | ___ |
| 38. The full benefits of films and filmstrips cannot be ascertained until we learn more about what they can do uniquely. | ___ | ___ | ___ | ___ | ___ | ___ |
| 39. When the characters in films wear outdated clothing, the students tend to think that the ideas in the film are also outdated. | ___ | ___ | ___ | ___ | ___ | ___ |
| 40. Films stimulate students to read more. | ___ | ___ | ___ | ___ | ___ | ___ |
| 41. There is an ample supply of films for most subject areas. | ___ | ___ | ___ | ___ | ___ | ___ |
| 42. It is hard to find films on current issues and topics. | ___ | ___ | ___ | ___ | ___ | ___ |
| 43. Many instructional films and filmstrips are outdated in content. | ___ | ___ | ___ | ___ | ___ | ___ |

1. strongly agree
2. moderately agree
3. mildly agree
4. mildly disagree
5. moderately disagree
6. strongly disagree

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 44. The material in most instructional films is accurate. | ___ | ___ | ___ | ___ | ___ | ___ |
| 45. When the newness of using films and filmstrips wears off, the chances are that they will be less effective. | ___ | ___ | ___ | ___ | ___ | ___ |
| 46. Films lead students to a greater use of library materials. | ___ | ___ | ___ | ___ | ___ | ___ |
| 47. By previewing films, teachers also learn more about the subjects they teach. | ___ | ___ | ___ | ___ | ___ | ___ |
| 48. The material in films lends itself to group activities which follow a film. | ___ | ___ | ___ | ___ | ___ | ___ |
| 49. Films and filmstrips are useful as an introduction to a unit, but the real work of teaching and learning takes place with conventional methods. | ___ | ___ | ___ | ___ | ___ | ___ |
| 50. Lack of imagination on the part of many teachers limits the classrcom use of films and filmstrips. | ___ | ___ | ___ | ___ | ___ | ___ |
| 51. The amount of time required to preview films seriously interferes with the other work of a teacher. | ___ | ___ | ___ | ___ | ___ | ___ |
| 52. With the use of films and filmstrips even my restless students become attentive. | ___ | ___ | ___ | ___ | ___ | ___ |
| 53. Films lead students to new interests. | ___ | ___ | ___ | ___ | ___ | ___ |
| 54. With films and filmstrips, teachers can provide the students with a common background of experiences. | ___ | ___ | ___ | ___ | ___ | ___ |

1. strongly agree
2. moderately agree
3. mildly agree
4. mildly disagree
5. moderately disagree
6. strongly disagree

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 55. Students tend to become more restless than usual when viewing films and filmstrips. | ___ | ___ | ___ | ___ | ___ | ___ |
| 56. There are few limitations on the ways in which films and filmstrips can be used. | ___ | ___ | ___ | ___ | ___ | ___ |
| 57. Students rarely use both filmstrips and books when preparing reports for class. | ___ | ___ | ___ | ___ | ___ | ___ |

## PART III

Directions: In the space below, draw a picture of a teacher using a film at work. Do not worry about your drawing ability as this is not a test of your ability to draw. Stick figures can be used if you like.

# APPENDIX IV

THOMAS EDISON SCHOOL

INSTRUCTIONS FOR ADMINISTRATION
OF STUDENT SURVEY

1. Give a copy of the Student Survey to each student in your class.

2. Instruct the students to complete the headings under Section I: Name (first and last), Grade, Teacher, Classroom number, and Date.

3. Read the instructions to your class as students read them silently.

4. It is important that children be informed that their choices will not be revealed to any teacher or other children.

5. Students should be informed of the following:

   a. If their choice is a member of your class, they are to complete all parts of the section; that is, name, grade, and teacher or classroom number.

   b. If their choice is not a member of your class, they are to complete as many parts of the section as possible; that is, name, grade, and teacher or classroom number.

   c. If they do not know a last name, they should include the last initial. This would assist the researcher in identifying the students' nominations.

6. Teachers should answer only those questions covered by the instructions, except:

   a. If students ask for clarification of the phrase "would most (or least) like to be with". (For example, "To be with for what?"), say: "Whatever it is you like to do, who are the children in our school whom you would like to do it with."

7. Provide an atmosphere in which their choices will be held confidential.

8. When individual students have completed the survey, it should be turned face down on the top of their desks.

9. When all students have completed the survey, collect them face down; then insert them in the envelope provided.

# STUDENT SURVEY

**Section I.**

Name _____ Grade _____ Date _____

Teacher _____ Classroom No. _____

On this form we would like you to tell us which children you would most like to be with, and which children you would least like to be with. Please fill out all of the sections below.

**Section II.** - Please name five children in our school you would most like to be with.

| | Name | Grade | Teacher or Classroom No. |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**Section III.** - Please name five children in our school you would least like to be with.

| | Name | Grade | Teacher or Classroom No. |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

THOMAS EDISON SCHOOL

PURPOSE AND PROCEDURE
OF STUDENT SURVEY

The Student Survey will be used to construct several sociographs.* They will be used to test the degree to which students include others in their groups and the degree of change as a result of the "maximum availability" of educational films and film equipment in the school. In addition to the general level and change in level of inclusion of other students, the survey will be used to measure the degree to which students integrate others from different classes and different grades. The level of inclusion or integration of students in the school's student ingroup* can be measured by the ratio of the number of members in the ingroup to the total number of students in the sociograph.

Part A

Starting with the most chosen member of each class, a sociograph will be constructed for each of the two schools: Thomas Edison, which has "maximum availability" of instructional media, and Abraham Lincoln, which is a "normally equipped"** school in the Jefferson Elementary School District.

All students will be asked to indicate the five students they "would most like to be with" and the five students they "would least like to be with". Initially the Student Survey will be administered only to the fourth, fifth, and sixth grades. However, additional grades will also be surveyed whenever one of the following conditions is met for an additional grade:

a. The students to which the survey has already been administered nominate at least four students from a single additional grade in their school.

b. The students to which the survey has already been administered nominate at least two students in their school from a single grade which has been added in the other school because condition "a" was satisfied there.

When another grade is surveyed, the relevant sociographs will be modified accordingly. The nomination of students not surveyed will be discarded.

Eight measures of integration will be used.

1. To test the size of the ingroup relative to the maximum member of students who could be included in the ingroup:
   the ratio of the number of students in the ingroup to:
   a. the number of students in the fourth, fifth, and sixth grades.
   b. the number of students surveyed.
   c. the number of students in the school.

2. To test the size of the ingroup relative to the number of students in the sociograph:
   the ratio of the number of students in the ingroup to the number of students in the sociograph (number of students surveyed).

3. To test the number of integrated students from other classes relative to the maximum number of students who could have been included in the ingroup:
   the ratio of the number of students in the ingroup but in a class different from the first named student in the sociograph to:
   a. the number of students in the fourth, fifth, and sixth grades.
   b. the number of students surveyed.
   c. the number of students in the school.

4. To test the number of integrated students from other classes relative to the size of the ingroup:
   the ratio of the number of ingroup member students outside the class of the first named student in the sociograph to the total number of students in the ingroup.

The mean of each of these measures across all classes per grade and across all classes in the fourth, fifth, and sixth grades, and also across all classes surveyed will then be compared between Thomas Edison and Abraham Lincoln Schools.

These comparisons will be made from a pre-test Student Survey administered in February, 1966, and a post-test Student Survey administered in May, 1966. In addition the change in each of these mean scores will be compared between schools.

Two-tail t-tests of the difference between means will be used to test the significance of the differences between the means of the two schools on the following dimensions:

1. Level of integration as measured by pre-test Student Survey.
2. Level of integration as measured by post-test Student Survey.
3. Change in level of integration from pre-test to post-test.

In addition a two-tail t-test of the mean difference will be used to test the significance of the difference in Thomas Edison School between pre-test and post-test levels of integration.

## Part B

To discover the nature of the ingroups organized by grade the Student Survey will be used to construct additional sociographs. These will be headed by the most chosen student in each of the fourth, fifth, and sixth grades. (Note: If the most chosen student in a grade were also the most chosen student in a class, the two sociographs would show identical ingroups.)

Six measures of integration will be used:

1. To test the number of students in the ingroup relative to the number of students who could be included in the ingroup:
   the ratio of the number of students in the ingroup to:
   a. the number of students in the fourth, fifth, and sixth grades.
   b. the number of students surveyed.
   c. the number of students in the school.

2. To test the number of students in the ingroup relative to the number of students in the sociograph:
   the ratio of the number of students in the ingroup to the number of students in the sociograph.

3. To test the number of integrated students from other grades relative to the number of students in the sociograph:
   the ratio of the number of students in the ingroup but in a grade different from the first named student to the number of students in the sociograph.

4. To test the number of integrated students from other grades relative to the size of the ingroup:
   the ratio of the number of ingroup member students not in the grade of the first named student to the total number of students in the ingroup.

The mean of each of these measures across the fourth, fifth, and sixth grades will be compared between Thomas Edison and Abraham Lincoln Schools. These comparisons will be made from a pre-test Student Survey administered in February, 1966, and re-administered post-test in May, 1966. In addition the change in each of these mean scores will be compared between schools.

The statistical tests analogous to those used when the data were organized by class (described in Part A) will be carried out.

## Part C

If there appears to be in either school a student with many more positive nominations than other students, but not the most chosen in his class or in his grade (that is, if there is a clear favorite of the combined grades tested who has not already headed a sociograph) then a sociograph will be constructed for each school headed by that student.

Nine measures of inclusion will be used.

1. To test the size of the ingroup relative to the total number of students who could be included in the ingroup:
   the ratio of the number of students in the ingroup to:
   a. the number of students in the fourth, fifth, and sixth grades combined.
   b. the number of students surveyed.
   c. the number of students in the school.

2. To test the number of integrated students outside the class of the top named student relative to the number of students who could be included in the ingroup:
   the ratio of the number of students in the ingroup but in a class different from the top named student to:
   a. the number of students in the fourth, fifth, and sixth grades combined.
   b. the number of students surveyed.
   c. the number of students in the school.

3. To test the number of integrated students outside the grade of the top named student relative to the number of students who could be included in the ingroup:
   the ratio of the number of students in the ingroup but in a grade different from the top named student to:

a. the number of students in the fourth, fifth, and sixth grades combined.
b. the number of students surveyed.
c. the number of students in the school.

Nine one-by-two chi square tests will be used to test whether or not these nine ratios in Thomas Edison School are significantly different from the corresponding ones in Abraham Lincoln School. In addition the level and nature of integration will be contrasted in the two schools by nine two-by-two chi squares computed to test the independence of school membership (Thomas Edison vs. Abraham Lincoln) and each of the following classifications:

1 a. ingroup members versus non-ingroup members in the fourth, fifth, and sixth grades.
1 b. ingroup members versus surveyed non-ingroup members.
1 c. ingroup members versus non-ingroup members in the school.

2 a. ingroup members outside <u>class</u> of first named student versus non-ingroup members in the fourth, fifth, and sixth grades.
2 b. ingroup members outside <u>class</u> of first named student versus all other students surveyed.
2 c. ingroup members outside <u>class</u> of first named student versus all other students in the school.

3 a. ingroup members outside <u>grade</u> of first named student versus non-ingroup members in the fourth, fifth, and sixth grades.
3 b. ingroup members outside <u>grade</u> of first named student versus all other surveyed students.
3 c. ingroup member outside <u>grade</u> of top named student versus all other students in the school.

The statistical tests for Part C will be carried out on the pre-test data and on the post-test data from the <u>Student Survey</u>.

# APPENDIX V

THOMAS EDISON SCHOOL

FILL-IN QUESTIONNAIRE
PURPOSE AND PROCEDURE

To assess the dimension of positive or favorable attitudes and feelings of students toward school, a Fill-In Questionnaire will be administered to the students in Thomas Edison and Abraham Lincoln Schools. The items are all sentence stems and call for the completion of the sentences. Each item will be scored according to the following decreasing ordinal scale of feeling tone toward school:

\+ for positive or favorable feeling tone toward school,

0 for ambiguous or neutral feeling tone,

\- for negative or unfavorable feeling tone.

The questionnaire will be administered pre-test (February, 1966) and post-test (May, 1966) in both schools. The number of positively scored items minus the number of negatively scored items will be the score for the questionnaire.

This instrument will be used to compare the two schools on the following dimensions:

1. The degree of positiveness of students' attitudes on the pre-test.
2. The degree of positiveness of students' attitudes on the post-test.
3. The change in degree of positiveness of students' attitudes toward school between pre-test and post-test.

The first two comparisons will be tested by t-tests of the difference between school means. For the third comparison each item will be scored for each subject according to the following procedure:

\+ if the response has become more positive,

0 if the item in the pre-test and the post-test were scored identically,

\- if the response has become less positive (more negative).

The difference score for each student will be the sum of the positively scored changes minus the sum of the negatively scored changes. For each school a mean difference score will be calculated. The schools will be compared using a t-test of the difference between mean differences. For each of the three comparisons two-tail tests of significance will be used.

THOMAS EDISON SCHOOL

## Fill-in Questionnaire

### Instructions for Administration

1. Before starting, familiarize yourself with these instructions and the Fill-in Questionnaire instrument.

2. Instruct the students to put their names (first and last), teacher, classroom number, and today's date in the spaces provided.

3. Read the instructions aloud as the students read them silently through the second paragraph.

4. Read the list of sentence stems as the students read them silently; define words they ask for. Do not use any words in a sentence in a way to suggest a completion of an item.

5. When it appears that the students know all of the words in the questionnaire, instruct them to begin.

6. When individual students have completed the questionnaire, they should turn them face down on the top of their desks.

7. When all students have finished, collect the papers face down and put them in the envelope provided.

8. To help students be free to use their own ideas, be certain that there is no conversation among students until all students have completed the questionnaire.

9. If the question arises, assure the students that their answers will be treated confidentially, will have no influence on them, and will be read only by the research staff.

## Fill-in Questionnaire

First name _____ Last name _____ Classroom number _____

Teacher _____ Grade _____ Date _____

INSTRUCTIONS:

Here is a list of beginnings of sentences, which you are to complete using your own words. Fill in the spaces to the right and below the words given to finish the sentences.

First read over the entire list of sentence beginnings silently while your teacher reads them aloud. If there are some words you do not understand, raise your hand and your teacher will help you.

1. When I am at school,
2. Younger boys and girls are
3. My class is
4. Filmstrips are
5. When I read a book,
6. My teacher
7. On school days I feel
8. Films are
9. When school is out,
10. Kids reading to me are
11. In the library
12. When I watch filmstrips,
13. When I am studying,
14. Watching films makes me
15. Older kids are
16. Studying with other children

GO ON TO NEXT PAGE

Fill-in Questionnaire
(continued)

17. I go to the office

18. When the bell rings for school to start,

19. When I wake up on school days, I hope

20. On days that I don't come to school, I think

21. I take books out of the library because

22. The principal

23. Homework is

24. On the way to school I expect

25. The other kids in the school

26. When I am in the library,

**WHEN YOU HAVE COMPLETED EVERY SENTENCE, TURN THE QUESTIONNAIRE OVER ON THE TOP OF YOUR DESK.**

# APPENDIX VI

## Student Opinionnaire-Elementary

Directions: Here is a list of statements which talk about films and filmstrips. We want to know how you feel about these statements. If you agree with the statement, check (✓) the column marked "Agree." If you disagree with the statement, check (✓) the column marked "Disagree." If you cannot decide, check (✓) the column marked "Can't Decide."

| Example: | Agree | Disagree | Can't Decide |
|---|---|---|---|
| I like filmstrips | ✓ | | |

If you like filmstrips, put a check in the column marked "Agree." If you don't like filmstrips, put a check in the column marked "Disagree." If you cannot make up your mind, put a check in the column marked "Can't Decide."

| Items: | Agree | Disagree | Can't Decide |
|---|---|---|---|
| 1. I enjoy seeing films and filmstrips in school. | ___ | ___ | ___ |
| 2. Films are confusing. | ___ | ___ | ___ |
| 3. Some films and filmstrips are not really true. | ___ | ___ | ___ |
| 4. Films and filmstrips are easy to follow and understand. | ___ | ___ | ___ |
| 5. Films and filmstrips that I see in school are boring. | ___ | ___ | ___ |
| 6. I wish that we didn't have to see so many films and filmstrips in school. | ___ | ___ | ___ |
| 7. Reading books is as much fun as viewing films and filmstrips. | ___ | ___ | ___ |
| 8. I like science films and filmstrips. | ___ | ___ | ___ |
| 9. I like films and filmstrips that show different countries. | ___ | ___ | ___ |
| 10. Some of the best films and filmstrips are stories. | ___ | ___ | ___ |
| 11. What I like best about films is running the projector. | ___ | ___ | ___ |
| 12. Films and filmstrips are exciting to watch. | ___ | ___ | ___ |
| 13. Watching films makes me sleepy. | ___ | ___ | ___ |
| 14. We are lucky to have so many films and filmstrips to see. | ___ | ___ | ___ |
| 15. We relax when we see films and filmstrips in school. | ___ | ___ | ___ |